

2017

Kansas Water Authority Annual Report to the Governor and Legislature



Dredging

Reservoirs

Streambank Restoration

Conservation

Education

Water Technology Farms

Technology

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The Kansas Water Authority (KWA) consists of 13 voting members who are appointed by the Governor or Legislative leadership. State agency directors serve as ex-officio members. KWA is statutorily within and a part of the Kansas Water Office (KWO). The KWA is responsible for advising the Governor, Legislature and Director of the KWO on water policy issues and for approving the *Kansas Water Plan*, federal contracts, administration regulations and legislation proposed by the KWO. The KWA provides the leadership to ensure that water policies and programs address the needs of all Kansans.



Kansas Water Office, 900 SW Jackson Street, Suite 404, Topeka, KS 66612

Governor Brownback and Members of the 2017 Kansas Legislature,

On behalf of the Kansas Water Authority (KWA), I am pleased to provide our 2017 Annual Report. This year's report highlights implementation, people, process and 2016 accomplishments.

This past year focused on implementing Phase I Action Items for the *Long-Term Water Vision for the Future of Water Supply in Kansas*. In addition, each of the 14 Regional Advisory Committees (RACs) diligently worked to develop step by step action plans to achieve their priority goals. Attention will now turn to adding implementation of these action plans to the Vision Action Items.

I'm proud to report the Water Vision Team and the Governor's Water Resources Subcabinet, working with literally dozens of local stakeholders and organizations have been successful this past year in implementing or initiating 100 percent of the Phase I Action Items contained in *The Vision*. Additionally more than 50 percent of the Phase II Action Items are underway. Several of those are showcased in this Annual Report. However, completion of many of these action items and initiation of the larger scale action items cannot be executed without additional funding.

I believe now is a critical turning point for water in our state. As our Vision for water states, "*Kansans act on a shared commitment to have the water resources necessary to support the state's social, economic and natural resource needs for current and future generations.*" We have now reached the point where all Kansans must truly commit to taking it to the next level. It's our foremost responsibility to future generations to appropriately invest in our water infrastructure.

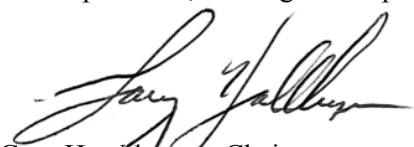
This begins with the Kansas Water Authority embracing its leadership role in the state to responsibly and effectively manage both existing and new revenues to address the most important water issues we face. We know the need greatly outweighs the available dollars, so it will be necessary to carefully consider each project and proposal in order to efficiently and effectively meet our long and short-term goals. As an Authority, we will continue to interface with our RACs, local leadership, elected officials, and state and federal partners to ensure adequate funding and development of water projects to tackle the hard problems.

I also had the privilege of serving on the Blue Ribbon Funding Task Force for Water Resource Management. I believe the recommendations of the Task Force to be fair and appropriate. The full Kansas Water Authority has thoroughly discussed this issue as well, and endorses the recommendations as they have been laid out. The Authority understands that finding additional revenue is difficult in these times. However, there is an oft-used saying, "there's no time like the present," to reflect immediacy in action. I would modify that statement slightly to say, "there's no time BUT the present." If we do not make the investment now, the problems we face will be only that much larger, and frankly, more dire.

I believe we have the right people and the right organizations and structures in place to take on this task of creating a lasting water future for the state of Kansas. But it will take all of us, acting on a shared commitment and claiming the responsibility to ensure Kansas and this resource is better for both current and future generations. Throughout this Report, we highlight the people, cities, businesses, and others who are meeting this challenge with action. But it will take more effort, more people, and more resources to get where we need to be. On behalf of the Authority, we invite each Kansan to join us in this process, and be part of the larger effort to secure our water future.

The Kansas Water Authority looks forward to working with you this session as we continue to address Kansas water resource priorities, funding and implementation of the *Vision for the Future of Water Supply in Kansas*.




Gary Harshberger, Chair
Kansas Water Authority

VISION FOR THE FUTURE OF WATER SUPPLY IN KANSAS IMPLEMENTATION

This year was a successful effort of implementation for action items in the *Long-Term Vision for the Future of Water Supply in Kansas*, with 100 percent of the Phase I Action Items marked as “completed,” and more than 50 percent of Phase II items underway.

While it is great to celebrate these accomplishments there is still much to do and we must continually look ahead to the next phase of implementation and long-term planning.

Highlights of the Vision Action Items include the successful adoption of all 14 Regional Advisory Committee Action Plans, the establishment of Water Technology Farms, additional watershed efforts to improve reservoir health and sustainability as well as the advancement of tools such as limited-irrigation crop insurance and Water Conservation Areas to better manage western Kansas resources. These and many other Vision items are highlighted in this report.

Essential to the ongoing implementation efforts of the Vision action items is the state-wide education and outreach effort, as well as an adequate funding mechanism to fund water resource project needs. Over the past year, both efforts have received specific attention by dedicated working groups to find solutions.

Supply WATER Conservation Research **VISION** Action Future Technology LOCAL

Regional Advisory Committees

Since the original call for the Vision by the Governor in 2013, there has been a concentrated effort to include local decision makers in the process. Successful Vision implementation would need local buy-in and involvement in the process. Building on the successful goal setting for each regional planning area, the Regional Advisory Committees (RACs) were busy in 2016 developing action plans to achieve both short and long-term goals in their region.

The RACs have incorporated planning, resource management, technology, and, most importantly, local involvement and support in their action plans. We are happy to report that every RAC goal has a corresponding action plan. The successes of the RACs lie in the members themselves. Members represent different user groups that are important to have input from as it relates to water and the future of the resource. They serve as the important link between the public and the planning agencies in the governmental process.

These action plans demonstrate steps which need to be taken to successfully meet desired water supply outcomes noted within the regional water supply goals for surface and groundwater

sources of water across Kansas. Each RAC held numerous meetings throughout their region and reported on their progress at each Kansas Water Authority (KWA) meeting. The KWA provided feedback on the plans as they were being developed. Once completed, these regional goal action plans were presented by each of the RACs to the KWA in fall of 2016, at which time the KWA took action to approve them.

In the development of these plans, the RACs were challenged by the KWA to think long-term, explore alternative methods of implementation outside of those named in the Vision, and keep local priorities in mind. These local priorities are important because many of the plans include things that need local user support and involvement. For example, the Cimarron RAC has detailed a plan to reduce the rate of decline in and extend the usable life of the Ogallala Aquifer through volunteer conservation and technology adoption. Through the use of conservation tools such as Local Enhanced Management Areas (LEMAS), Water Conservation Areas (WCAs), Multi-Year Flex Accounts, Water Banks, and Irrigation Scheduling, they are hoping to educate producers the “use it or lose it” mentality is no longer necessary.

In the Cimarron and other western regions, such as the Red Hills, Upper Arkansas, and Upper Republican RACs are looking to demonstrate through the use of technology that conservation can be an economically feasible decision through technology farms and pilot projects. In the High Plains Aquifer and other RACs, such as the Great Bend Prairie, the need for better data and monitoring of the groundwater levels was identified.

This need for data is not isolated to the western part of the state. The Missouri RAC also identifies the need for more information on both the quantity and quality of groundwater and lists action steps to address it, such as assessment reports of quality conditions in the glacial, alluvial and bedrock aquifers in the area.

Other regions, such as the Verdigris and Solomon-Republican, are taking steps to increase storage for the future, whether looking at new multi-purpose lakes, or maintaining capacity in existing reservoirs. The Neosho RAC has set forth a plan to stabilize all streambank hotspots by 2025 in the Cottonwood-Neosho region to slow sedimentation rates in John Redmond Reservoir. The action steps again rely on local support and involvement through the implementation of no-till practices

VISION FOR THE FUTURE OF WATER SUPPLY IN KANSAS IMPLEMENTATION

such as cover crops and other agricultural best management practices (BMPs).

As the RACs were working on their action plans, questions arose as to where additional financial resources for plan implementation would come from and how those resources would be managed. The Kansas RAC addressed this question head-on in their action plans, proposing a Basin Watershed Management System to be used for all new funds allocated to meet the relevant Kansas Regional Goals. The System would rely on grassroots involvement, be watershed based, use science-based prioritization and seek to use outreach strategies to gain participation by property owners in the watershed. The plans mentioned here are

just some examples of the ways RACs are implementing the Vision and working together to protect and conserve the state's water resources today and for the future.

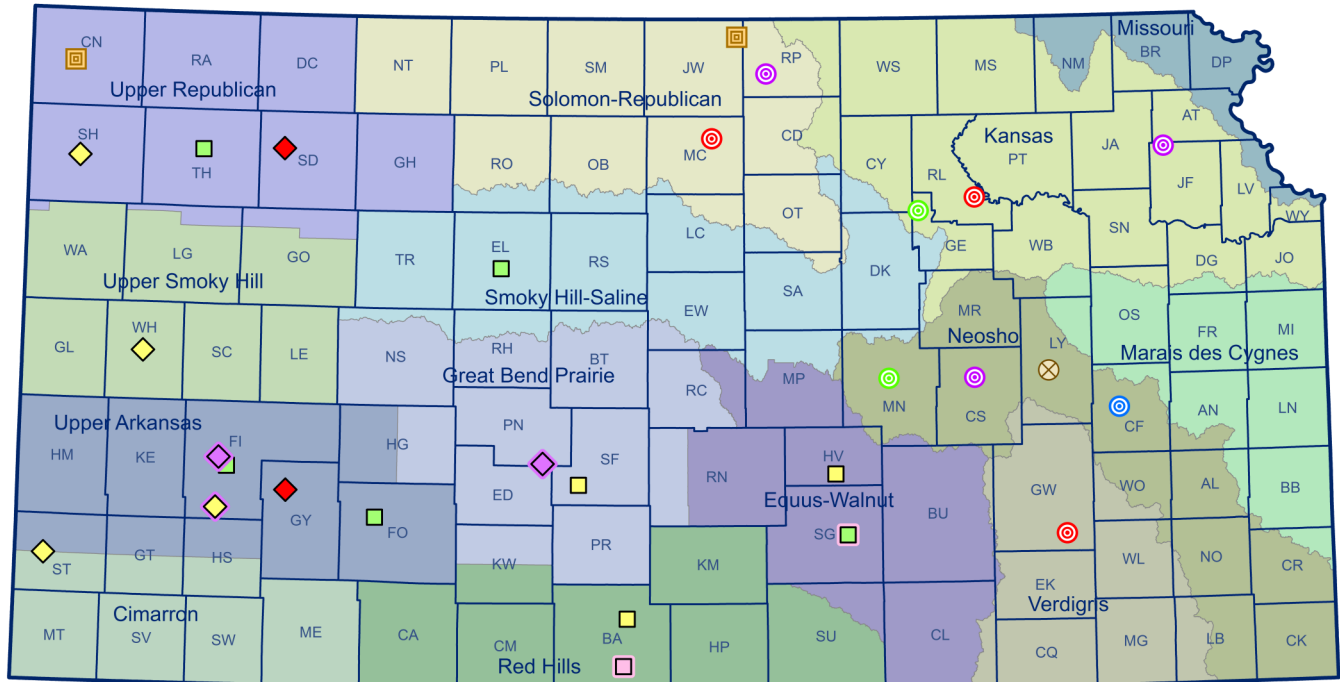
As we move into 2017, the RACs will not be slowing down. Not only will they work to put these plans into action, they will ensure the plans are being implemented in a timely manner. The RACs are a vital part in the connection between Legislature, state, city, and local governments, and the communities they

work and live in. Without the RACs, public involvement in the ever-changing world of water resources would not be possible.



RAC Chairs Angela Anderson, Lori Kuykendall and Doug Blex along with Bobbi Lutjohann (KWO) provide an update on Action Plan progress to the KWA.

Vision Implementation Activities



Reservoir Activities

- ⊙ John Redmond Reservoir Dredging (page 7)
- ⊙ Management and Operations (page 8)
- ⊙ Streambank Stabilization (page 8)
- ⊙ Nutrient/Blue Green Algae (page 9)

Ogallala Activities

- ◆ Economics of the Ogallala Aquifer (page 12)
- ◆ Water Conservation Areas (page 13)
- ◆ Water Technology Farms (page 14)

Water Reuse

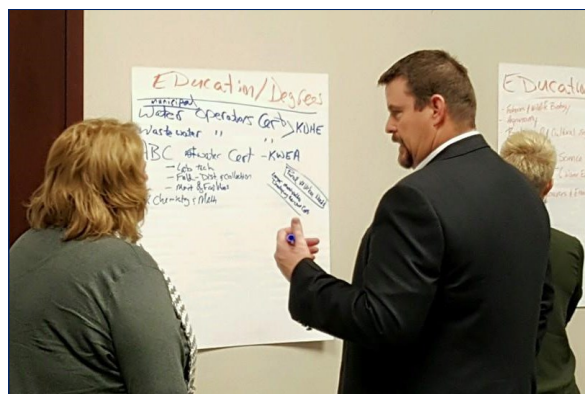
- Municipal (page 15)
- Industry (page 15)
- RAC Action Plan (page 15)
- ⊠ Interstate (page 16)
- ⊠ Drought Tournament (page 17)

VISION - EDUCATION AND OUTREACH

As the Vision Team held public meetings across Kansas, one message heard over and over was more education and outreach was needed regarding water issues. While there are many existing water-related education programs available for both youth and adults, the central message and coordinated educational resource was lacking that connects Kansans to their water source. Many of the Action Items in the Long-Term Vision for the Future of Water Supply in Kansas, as well as some goals developed by Regional Goal

meeting, five public meetings were held to gain input from a working group of Kansas volunteers with interest and expertise in water-related education and outreach. Nearly 60 interested Kansans were in attendance at each meeting.

Guiding principles were established to be specific to the process. The Education and Outreach supplement does not displace current water educa-



Workforce Development Subgroup



Water Vision Education & Outreach Working Group Meeting, Youth Education Subgroup

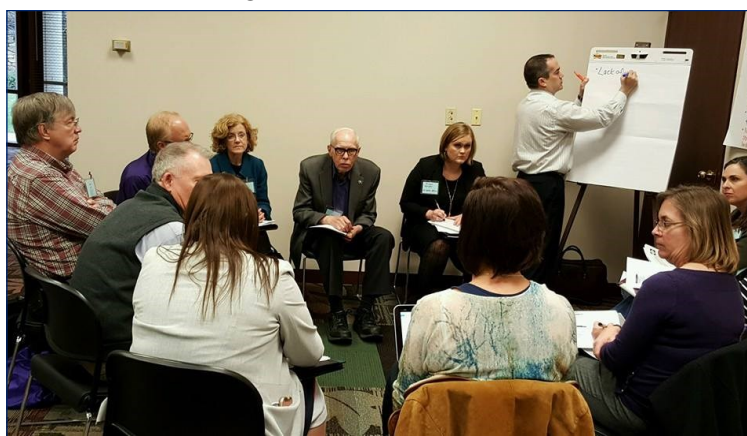
Leadership Teams, highlighted the need for additional development of a state-wide water message and “one-stop-shop” for information and learning resources.

To meet this goal, a coordinating team was assigned to oversee working groups to develop a multi-phased educational proposal for target audiences of K-12 youth, community leaders, and media to promote local conservation decisions. Existing educational efforts, programs and activities were to be incorporated as appropriate. Led by Dana Ladner with the Kansas Department of Agriculture, a kickoff meeting followed the 2015 Governor’s Water Conference. Following the initial

tion programs. The supplement is strategic in nature and unified through a social marketing campaign and centralized web-based platform. Designed to exist under the larger umbrella of the Vision several strategies were estab-

lished from the outset. First, there is a direct need to develop a statewide marketing campaign to include brand recognition for water within our state’s residential households. This will be reinforced through the establishment of a brand-recognizable, centralized website. Specific tools will be developed with the purpose of increasing awareness and knowledge of Kansas youth on water related issues. The effort should provide opportunities for Kansans of all ages to increase their awareness of local water issues.

The supplement is divided into four user-categories: Community Facilitation and Learning, as listed in the draft supplement K-12 Curriculum and Career Education out of class room education, Workforce Development, Youth Education, and Media and Public Outreach Campaigns. Each category has specific action items to be implemented as part of the Vision.



2016 Working Group, Community Facilitation & Learning Subgroup

In 2016, the state of Kansas continued forward with implementation of a large-scale dredging project to restore water supply storage and completed

ronmental impacts of dredging. The disposal sites not included within the Final Programmatic Environmental Impact Statement (FPEIS) was completed in September 2014. The USACE issued a Finding of No Significant Impact (FONSI) for these three confined disposal facilities (CDFs), noting use of the property of interest would not significantly impact the quality of the natural or human environment. Following completion of the SEA, all disposal sites utilized for disposal of 3,000,000 cubic yards of sediment for Phase I dredging operations successfully navigated the environmental review process.

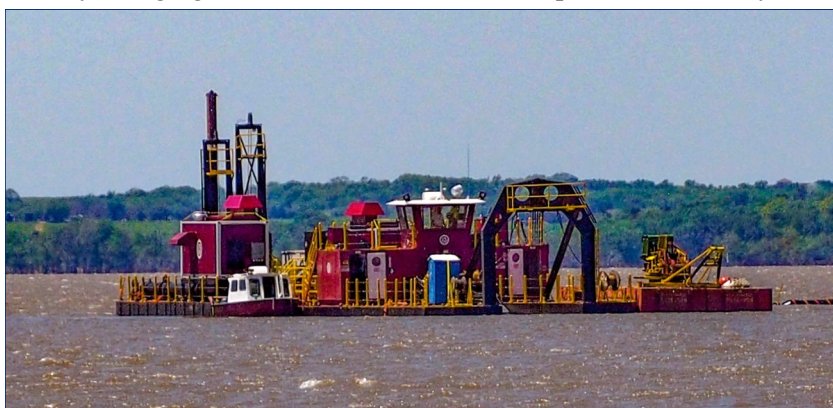
permit compliance to allow for discharge of effluent water from disposal sites to downstream water bodies. Permit collaboration between KWO and KDA-DWR involved compliance of permit conditions on dam, floodplain fill, stream obstruction and term water right permits.

Construction of CDFs began in November 2015 and continued through June 2016 when the final of five disposal facilities was completed. By May 2016 enough disposal capacity was in place to allow for dredging operations to begin while work continued on CDFs. To mark the beginning of dredging operations, a ceremony was held on May 17 at John Redmond Reservoir to commemorate the occasion as well as recognize the years of collaboration and environmental and technical review which allowed for this project to become a reality.

Phase I of dredging operations at John Redmond Reservoir. This project represents the first of its kind in the nation with a non-federal entity dredging sediment from a U.S. Army Corps of Engineers (USACE) reservoir for the purpose of ensuring water supply storage. Three million cubic yards of sediment were removed and disposed on USACE and private property during Phase I dredging operations with dredging being completed in October 2016. Sites used for disposal of sediment will be returned to the preferred use of the respective landowners after dewatering. Water stored in John Redmond Reservoir is provided, through a contract with KWO, to 10 communities and six industrial users including the Wolf Creek Nuclear Operating Station.

KWO completed a Supplemental Environmental Assessment (SEA) in February 2016 to evaluate the envi-

Agency coordination efforts also continued in 2016 with state agency partners to ensure conditions of permits

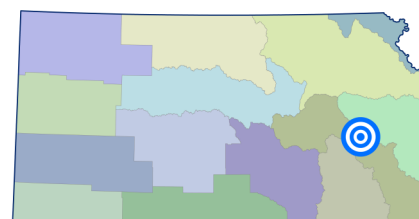


Great Lakes Dredge & Dock Dredge 'LP' on John Redmond Reservoir

were met by KWO for various aspects of the project. These efforts included collaboration with the Kansas Department of Health and Environment (KDHE) as well as the Kansas Department of Agriculture—Division of Water Resources (KDA-DWR). KWO worked with KDHE on permitting issues such as construction stormwater clearances to ensure earthwork associated with the project did not negatively impact local water quality. They also helped with the National Pollutant Discharge Elimination System

Redmond Reservoir to reduce the sedimentation rate, as well as future restoration work to remove sediment within the reservoir is still necessary to ensure future water supply demand is met through the year 2045.

The removal of sediment has helped extend the life of this public water supply source, but as past drought has shown the removal of 3 million yards will not solve all of the problems with the aging reservoir to help restore water supply storage lost to sedimentation. Additional work in the watershed above John



Operations & Modeling

In 2016, KWO provided assistance to the RACs as they finalized their action plans. Many of the regional water supply goals in the final action plans relate to the concept of improvements or changes to the existing reservoir operations and management. Actions such as increasing storage capacities of existing reservoirs, increasing water supply available to meet downstream demands, reducing reservoir sedimentation rates, evaluating new reservoir sites and even reducing projected demands through education or conservation goals can impact the interaction of surface water storage supplies, regional demands and the overall operation and management of those supplies. For nearly two decades, KWO has uti-

lized basin-level surface water models to assess the operational capability and physical adequacy of the reservoir and surface water systems in Kansas.

These models enable KWO staff to evaluate the effects operational changes, reservoir improvements and demand modifications could have on the individual basin systems. As part of the Vision, they can be utilized to evaluate the impacts of proposed changes associated with the regional goals of various basins in Kansas.

In order to facilitate detailed evaluations and assessments of some of the regional goals, it was recommended a single surface water operations model be developed to cover all of central

and eastern Kansas. Beginning in late 2014, KWO worked with HydroLogics to update the existing basin models, develop additional models for some areas where necessary and combine all of the information for inclusion in the new Multi-Basin Evaluation of Kansas Reservoir Operations model (MEKRO). The new MEKRO model was developed throughout 2015, and was completed by the contractor and delivered to KWO in the spring of 2016. This new model will be utilized by KWO staff to assist the public in evaluating the system effects associated with many of the regional goals.



Cottonwood River Streambank Stabilization Projects Process

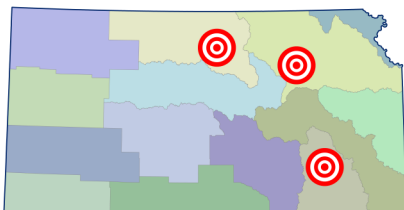
Streambank Stabilization

Streambank stabilization has been a key component in the reduction of sediment entering our water supply reservoirs. The coordination between the KDHE (Watershed Management Section), the Kansas Department of Agriculture-Division of Conservation (KDA-DOC), and the KWO have utilized the strengths and resources of each agency to accomplish streambank protection work to reduce erosion and sedimentation in the watersheds and waterways above our highest priority reservoirs. In order to complete projects in the most efficient and cost ef-

fective manner, the group operates from pooled funding. Funds available through agency programs for streambank protection projects are targeted to priority areas and administered by this group. The Kansas Forest Service, Kansas Department of Wildlife, Parks, and Tourism, local conservation districts and local Watershed Restoration and Protection Strategy (WRAPS) groups are also important to the success of this process.

Streambank stabilization efforts are currently being concentrated in three high priority watersheds, the Big Blue/Little Blue Rivers above Tuttle Creek Reservoir, the Delaware River above Perry Lake, and the Neosho/Cottonwood Rivers above John Redmond Reservoir. In 2016, seven streambank sites were completed and 18 new projects have been started with

completion scheduled for 2017. For FY 2016, \$388,300 was spent to complete and/or begin the streambank stabilization projects. It is estimated the streambank stabilization projects implemented to date will prevent nearly 1,000,000 tons of sediment from entering the associated downstream reservoirs each year.



'Be the Vision' - David Royer



Streambank stabilization is vital to solving sedimentation issues & David Royer's sites were top priority within the Watershed Restoration and Protection Strategy (WRAPS) projects to be constructed along the Delaware River. David's advocacy has led many others to utilize the WRAPS program as well to reduce sediment and nutrients going into the lake and reservoir.

Water supply storage in reservoirs across Kansas provides water to municipal and industrial customers. Over time, this storage is being diminished due to reservoir sedimentation. In addition to sedimentation, the storage in these reservoirs is negatively impacted by nutrient runoff which can potentially increase the frequency of harmful algae blooms, taste and odor issues with drinking water, and impacts to recreation in Kansas. Nutrient loading which takes place in these watersheds also contributes to water quality issues

between the KDA-DOC, the KDHE, and the KWO will allow for a more targeted approach in reducing sedimentation and nutrient loading into waterways and reservoirs across Kansas. The program looks to utilize existing efforts by local WRAPS



Kansas Regional Advisory Committee Meeting, Wakefield, KS



Summer 2016 Algae Bloom, Milford Reservoir

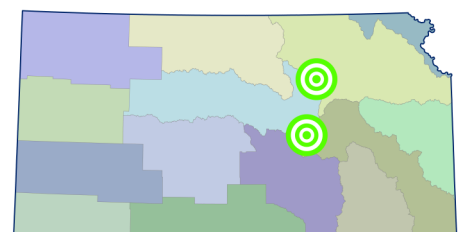
present in other downstream waters of importance. A number of RACs included BMP implementation as a primary tool to help reduce rates of reservoir sedimentation. Implementation of BMPs in watersheds above reservoirs results in reductions of nutrient and sediment runoff, helping to improve water quality and decrease sedimentation and reduce future water supply loss.

Development of a collaborative sediment and nutrient reduction program

groups with implementation efforts through conservation districts as well as enhance on-the-ground technical assistance for watershed landowners to help further facilitate BMP implementation within priority watersheds. Local WRAPS Stakeholder Leadership Teams (SLTs) have developed 9-element watershed plans, which are required to be in place for recipients to receive EPA 319 Program funding to address non-point source pollution, that can be utilized as a guide to help lead to implementation efforts. These completed plans have identified more than \$16 million per year in estimated BMPs needed to achieve water quality goals and decreasing sediment and nutrient loading of priority water bodies.

In July 2017, the KDA-DOC made plans to move forward with a revamped Buffer Initiative Program. This program will move forward with efforts previously discussed under a conceptual Kansas Nutrient/Sediment Reduction Conservation Reserve Enhancement Program (CREP) proposal to all for targeted nutrient and sediment reduction BMP implementation in select reservoir watersheds, including the Milford Reservoir watershed.

Milford Reservoir in the Kansas Region has experienced several years of severe toxic algae outbreaks lasting nearly all summer. The Kansas RAC action plan on reducing harmful algal blooms includes other approaches to complement nutrient reduction, including inclusion of lake communities into HAB discussions. The Kansas RAC began this dialogue by holding their October meeting in Wakefield at the upper end of the lake. Nearly 70 area residents attended and heard about efforts to understand the sources of and control methods for harmful algae blooms. The RAC will continue to assure the communities are informed and consulted on actions to control the blooms. The RAC has proposed a watershed management system that would be utilized to focus new funding on the reduction of the level of nutrient entering the lake. "We see the coordinated effort necessary to address the problem effectively," said Sarah Hill Nelson, chair of the Kansas RAC.



BLUE RIBBON FUNDING TASK FORCE FOR WATER RESOURCE MANAGEMENT

Membership

Throughout the Vision process, it was emphasized that Kansas is a diverse state with many unique issues facing water users in different regions. Thus, the Vision embodies the flexibility to craft solutions unique to local regions and beneficial to all types of users. Therefore, Governor Brownback appointed membership of the Task Force who are equally diverse, incorporating state-wide organizations, legislators and agency officials.

Organizations	State Legislators	Ex-Officio Agencies
Randall Allen, Exec. Director, KS Assoc. of Counties	Sen. Jim Denning, Overland Park	Robin Jennison, KDWPT
John Bridson, Vice-President of Generation, Westar Energy	Sen. Tom Hawk, Manhattan	Jackie McClaskey, KDA
Colin Hansen, Exec. Director, KS Municipal Utilities	Sen. Larry Powell, Garden City	Susan Mosier, KDHE
Gary Harshberger, Chairman, KWA	Rep. Jerry Henry, Atchison	Tracy Streeter, KWO
Terry Holdren, CEO, Kansas Farm Bureau	Rep. Steven Johnson, Assaria	
Karma Mason, Member, KS Chamber & KWA	Rep. Sharon Schwartz, Washington	
Erik Sartorius, Exec. Director, League of KS Municipalities		
Dennis Schwartz, KRWA & KWA		
Matt Teagarden, CEO, KS Livestock Association		
Tom Tunnell, President & CEO, KS Grain & Feed Assoc.		

The Task Force met seven times during 2016 to evaluate overall financial needs to implement the *Long Term Vision for the Future of Water Supply in Kansas*, current revenue sources and alternatives, and develop a recommendation to present to the Governor and 2017 Legislature.

The Task Force came to the consensus that roughly \$55 million in annual funding is needed for full implementation of the Vision. Actual project expenditures will vary from year to year in response to changing priorities and accomplishments. The KWA remains the appropriate entity to make budgetary recommendations, in concert with the Governor's Water Resources Sub-Cabinet, on priority projects and programs.

To ensure an adequate revenue stream to support the funding needs, the Blue Ribbon Funding Task Force recommends the following:

- Existing fees into the State Water Plan Fund (SWPF) be maintained at current levels
- One-tenth of one percent of the existing statewide sales tax be dedicated to funding Vision implementation
- It is preferable the dedication of the one-tenth of one percent sales tax be protected for this purpose by constitutional amendment and subject to referendum every 10 years
- A review of all existing user fees by the legislature five years after successful collection of the state sales tax, to continue every 5 years thereafter
- State General Fund & Economic Development Initiatives Fund statutory demand transfers be provided to the SWPF by the legislature during the 2017 session for the FY2018 and 2019 budgets, or until the proposed sales tax revenue is successfully collected, and
- The Legislature and the KWA look at the statute relative to the makeup of the KWA, and seek to include demographic and user fee participation as guidelines for representation and appointments



Blue Ribbon Funding Task Force Meeting

BLUE RIBBON FUNDING TASK FORCE FOR WATER RESOURCE MANAGEMENT

Water Conservation - \$23,156,000

Strategic Education Plan

Create an education plan that will address the gap in water conservation education needs of all Kansans.

Watershed BMP Implementation

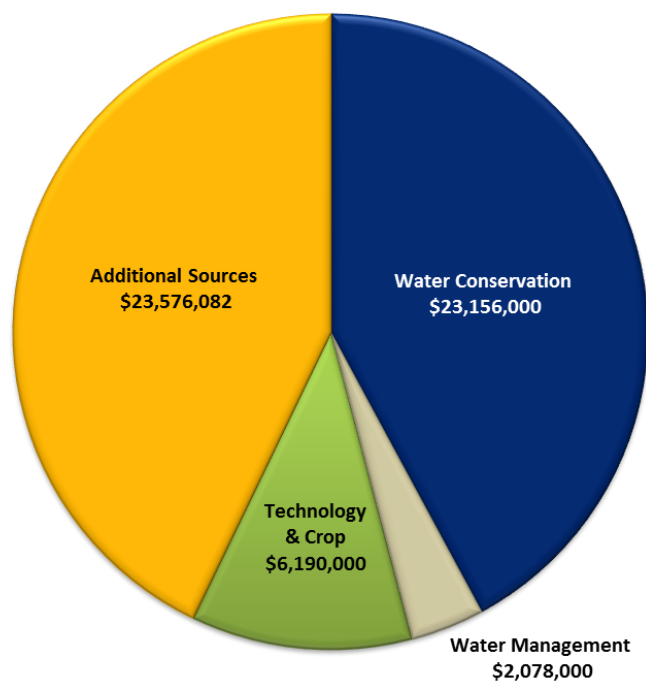
Protect water supply storage and improve water quality in reservoirs across Kansas.

Streambank Stabilization

Reduce the amount of sediment entering our federal reservoirs by implementing streambank stabilization projects.

Construction of Watershed Dams

Provide financial cost-share assistance to organized watershed, drainage, or other special purpose districts, construct watershed dams to create additional water supply and reduce sedimentation above federal reservoirs with a water supply component.



Water Management - \$2,078,000

Technical Assistance for Public Water Suppliers

Improve the quality of life in Kansas communities by assisting public water suppliers in delivering quality drinking water in an efficient and cost effective manner.

Kansas River Monitoring and Modeling

Improve the understanding of the alluvial aquifer to allow for better system decisions, and to be able to examine the effects of future development and management on groundwater and river water levels in the Kansas River system.

Kanopolis Reallocation Feasibility Study

Increase available water supply and water supply storage within the Smoky Hill-Saline Regional Planning Area and ensure water supply available from reservoir storage exceeds demand by at least 10% through the year 2060.

Additional Sources - \$23,576,082

Identify Additional Reservoir Sites

Locate areas within Regional Planning Areas that are drought vulnerable or currently not adequately served.

Model to Assess Chloride Remediation of Equus Beds

Remediation of areas of high chloride concentrations.

Modeling and remediation of brackish water

Investigate the potential of brackish and waters as an additional source of water.

Research Treatment of Lower Quality Water

Develop additional sources of water supply available through treatment.

Call into service storage of Milford and Perry

Call future use storage into service at Perry and Milford.

Construct MPSL reservoirs

Locate areas within regions that would benefit from the construction of Multi-Purpose Small Lakes.

Minimum Pool Agreements in the Solomon-Republican

Provide additional water in reservoirs in region.

Sediment Removal

Restore water supply lost to sedimentation through an ongoing dredging initiative.

Drinking Water Protection Program

Ensure all have clean, healthy, affordable drinking water.



Technology and Crop Varieties - \$6,190,000

Irrigation Technology Adoption

Promote adoption of irrigation efficiency technologies, implement research-based technology, and develop career and technical education programming.

Less Water Intensive Crop Research/Ag Research

Increase adoption of less water intensive crop varieties.

High Plains Aquifer Monitoring and Modeling

Expansion of the High Plains Index Well Network and the maintenance of stream-aquifer models.

Sediment Monitoring and Collection

Sediment monitoring gages, bathymetric surveys, and sediment coring, to monitor sediment entering water supply reservoirs.

Stream Gaging Network

Support the continuous monitoring of streamflows on key streams and rivers.

Livestock Water Supply Research & Implementation

Research and develop technology to increase water use efficiency and allow for reuse of wastewater.

LiDAR Acquisition

Derive highly accurate elevation data, using an optical remote sensing technology.

K-State Studies the Economic Impact of Water Conservation Over the Ogallala Aquifer

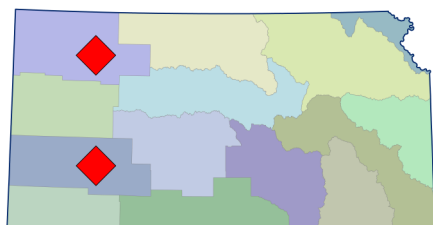
Subareas of Southwest Kansas

This study evaluates the impacts of water conservation in three selected areas of southwest Kansas. The study focused on areas located in portions of Grant, Gray, Finney, Kearny, Haskell and Meade Counties as illustrated below and economic models compared the status quo with the implementation of LEMAs achieving a 20% reduction in water use.

The model simulates the status quo and LEMA scenarios over a 61 year time horizon under normal climate conditions. The results suggest producers will realize a cumulative net revenue increase under the LEMA scenario compared to status quo. Subarea 1 would have the greatest positive impact of 6.3% with Subarea 2 and 3 achieving 2.1 and 2.7% in-

creases in cumulative net revenue, respectively. The study placed a value on conserved groundwater and assumed a continued increase in irrigated crop yields and reduced input use resulting from new crop varieties and cultural practices.

The study also suggests the rural economies respond more positively than producer net revenues.



Southwest Kansas - Cumulative Producer Net Revenue Results

Subarea	Scenario	Cumulative Net Revenue	Relative Net Revenue	Value of Remaining Water	Net	% Change
1	Status Quo	\$ 2,767,754,945	\$ -	\$ -	\$ 2,767,754,945	
1	LEMA	\$ 2,691,065,377	\$ (76,6689,568)	\$ 323,228,890	\$ 2,942,604,699	6.3%
2	Status Quo	\$ 1,586,859,472	\$ -	\$ -	\$ 1,586,859,472	
2	LEMA	\$ 1,602,093,938	\$ 15,234,466	\$ 2,749,542	\$ 1,620,077,946	2.1%
3	Status Quo	\$ 2,287,234,017	\$ -	\$ -	\$ 2,287,234,017	
3	LEMA	\$ 2,257,389,875	\$ (29,844,141)	\$ 121,506,813	\$ 2,349,052,547	2.7%

Sheridan County LEMA

KSU has been working with producers inside and outside of the Sheridan County LEMA for the past three years to evaluate the economic impact of the LEMA comparing production and wa-

In 2013, corn producers inside the LEMA reported 19.8% less groundwater used and 6.5% less yield than their outside counterparts. However, the producers reported 1.5% more cash flow than the higher yielding corn acres outside the LEMA. Soybean production and cash flow data reported similar results, less water use and yield but higher cash flows inside the LEMA boundary. There wasn't any irrigated sorghum outside the LEMA. Inside, producers used an average of 4.3 inches of irrigated water per acre and reported the largest cash flow of any irrigated crop.

In 2014, LEMA corn producers reported

ter use data inside and immediately outside the LEMA boundaries. The Management Area has been in existence for four growing seasons. The evaluation is ongoing and the summary information is considered an interim report for the 2013-2015 crop years. The data suggests producers inside the LEMA boundary have been successful in significantly reducing groundwater usage with minimal impacts on cash flow. Groundwater use inside the LEMA was 25.3% less than the area outside. Overall irrigated acres were reduced by 8.5%. Irrigated corn acres were decreased by 22.8% and irrigated sorghum and wheat acres were increased by 406% and 95.8%, respectively.

using 49% less groundwater and had 15.6% less yield than the observation reported outside the LEMA. Soybean production inside was 13.3% less than those reporting production outside. Soybean producers inside the LEMA used 34.3% more groundwater than their counterparts outside. This evidence suggests that high amounts of groundwater used does not necessarily equate to higher returns. As in 2013, there wasn't any irrigated sorghum production outside the LEMA for comparison. Irrigated sorghum producers inside the LEMA reported using 6 inches of groundwater per acre and generated comparable cash flows to 2013.

2013 Producer Reported Economic Data – Sheridan County

Item	Num. Obs	Water Use (in/ac)	Yield (bu/ac)	Cash Flow (\$/ac)	Cash Flow (\$/in)
Corn Wt Avg - Inside LEMA	6	11.1	198.0	\$403	\$36
Corn Wt Avg - Outside LEMA	4	13.8	211.6	\$397	\$29
Sorghum Wt Avg - Inside LEMA	2	4.1	152	\$434	\$107
Sorghum Wt Avg - Outside LEMA	0	NA	NA	NA	NA
Soybeans Wt Avg - Inside LEMA	2	10.3	63.8	\$418	\$41
Soybeans Wt Avg - Outside LEMA	2	11.3	68	\$412	\$36

2014 Producer Reported Economic Data - Sheridan County

Corn Wt Avg - Inside LEMA	5	10.0	229.5	\$449	\$45
Corn Wt Avg - Outside LEMA	1	19.7	272.0	\$507	\$26
Sorghum Wt Avg - Inside LEMA	1	6.0	152	\$438	\$73
Sorghum Wt Avg - Outside LEMA	0	NA	NA	NA	NA
Soybeans Wt Avg - Inside LEMA	2	9.0	60.7	\$262	\$29
Soybeans Wt Avg - Outside LEMA	1	6.7	70	\$388	\$58
Sunflower Wt Avg - Outside LEMA	1	6.0	88.1	\$788	\$131

groundwater use and how much of the county will soon exhaust the Ogallala Aquifer for high capacity agricultural irrigation use. The map on the right shows the impact of high participation levels in the proposed Wichita County WCA plan, which has been predicted to remove much of the red and dark orange zones. The red and dark orange zones representing areas of high aquifer depletion or exhaustion.

A potential option to support the successful adoption of a WCA is financially supporting implementation of irrigation technology to allow more efficient use of water for agricultural purposes.

Water right owners are supported by staff at the Garden City and Stockton KDA-DWR Field Offices. They are available to walk water right owners through various WCA scenarios and educate them on options available to address their particular water right and aquifer conditions.

Water Conservation Areas

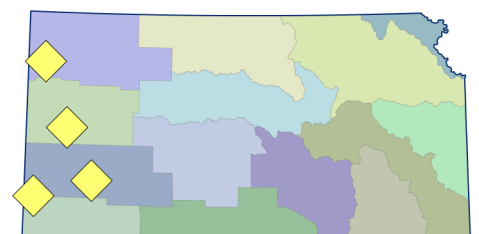
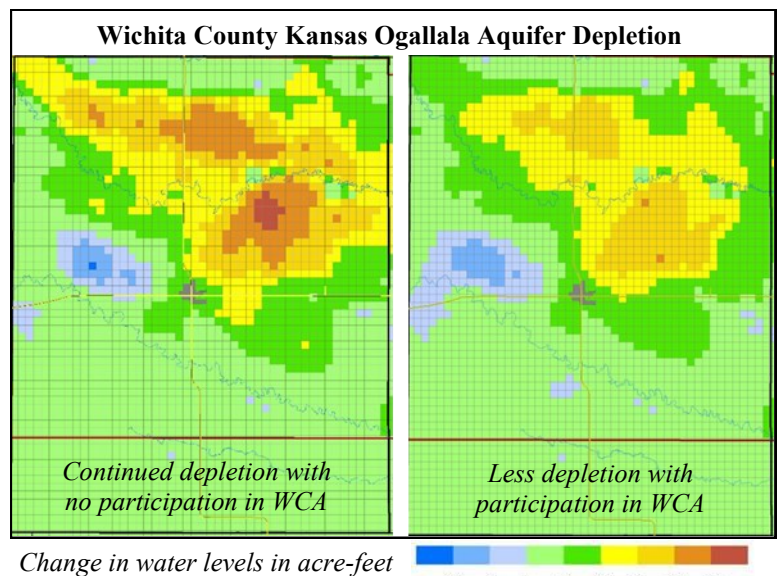
In 2015 the Water Conservation Area (WCA) statute was passed by the Kansas Legislature and signed into law, implementing an important Action Item in the State's 50-Year Vision for the Future of Water in Kansas. The WCA statute allows for increased voluntary measures to conserve water by allowing a landowner or group of landowners to develop their own water management plan to control their water conservation efforts and submit it to the Chief Engineer of the DWR for approval. In return for overall water conservation, water right owners are allowed more flexibility in how they can use and manage their water over multiple years.

In the water management plan submitted to the Chief Engineer, water right owners must address how their WCA will implement corrective controls to improve the water future of their local area.

There are currently three WCAs in operation, with all located in areas where the Ogallala Aquifer has been historically depleted.

WCAs are defined in statute in K.S.A. 82a-745. In the statute WCAs are allowed in areas of the state where groundwater levels are declining or have excessively declined, where the rate of water withdrawal exceeds the rate of recharge, where a preventable waste of water is occurring or where a deterioration of an area's water quality is occurring.

An effort is mounting being lead by a group of local landowners in Wichita County, Kansas to establish the first county-wide WCA in Kansas for the 2017 growing season. The images in the middle right of this page are of groundwater decline scenarios in Wichita County, with the map on the left showing no changes in



Water Technology Farms

Water Technology Farms are public-private partnerships where field scale irrigation technology is demonstrated, irrigation related research is conducted and water conservation is supported. New irrigation technologies, management techniques, and cropping patterns can be tested on a larger scale on Water Technology Farms. The concept is a Phase II Action Item from the Ogallala-High Plains Aquifer section of the Vision for the Future of Water Supply in Kansas.

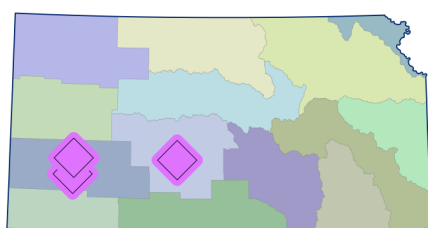
On these farms, a combination of soil moisture probes, mobile drip irrigation, low hanging nozzle packages, weather stations and various seeding rates are being tested.

On the T&O Farms Water Technology Farm specifically, different types of soil moisture probes are being utilized and compared.

Spray nozzles and mobile drip irrigation are also being compared on adjacent irrigation center pivots and a weather station has been installed. Polyacrylamide application is tested, and the Kansas Geological Survey (KGS)

has installed an index well, which provides real time monitoring of the local aquifer conditions and its response to water conservation activities in the area.

At the Roth/Garden City Company's Water Technology Farm, side by side



comparison is being done between mobile drip irrigation, bubbler nozzles and iWeb nozzles. This farm is also demonstrating the capabilities of soil moisture probes now affects efficient irrigation management decisions. The farm has had soil and aerial mapping conducted, which allows the field's variable soil types to be considered in management decisions.

The WaterPACK and ILS Water Technology Farm also includes a side by side comparison of mobile drip irrigation and sprinkler nozzle packages. It's using soil moisture probes to make informed irrigation management decisions and is also doing a comparison of the yield and water use between fields that have been planted in straight crop rows or in a circular pattern. The circular pattern is expected to maximize the efficiency of mobile drip irrigation systems.



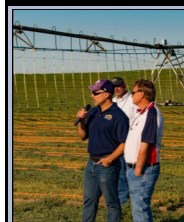
August 2, 2016 T & O Farms

Water Technology Farms allow an opportunity for agronomy research to be conducted by the K-State Research and Extension office of southwest Kansas. A few of the topics being researched are: Sorghum seed-

ing rate yield tests, yield response to polyacrylamide application, yield comparisons or determining the water productivity of several spray nozzle packages and mobile drip irrigation, and the yield impacts of different cropping patterns.

Water Technology Farms have been valuable in expanding the conversation on water conservation in areas overlying the depleting Ogallala Aquifer. Each of the Farms have had well attended field days, with more than 200 people at the T&O Farms field day on August 2. Additionally, the Water

'Be the Vision' - Tom Willis



The first and largest to be developed for the 2016 growing season was T & O Farms owned by Tom Willis. To realize the full potential of coupling water saving strategies, Tom chose his farm to also be a Water Conservation Area (WCA) which allows additional reduction in water withdrawals while maintaining economic value through water right technology.

Technology Farms have been used to illustrate water conservation efforts on the KGS 2016 Field Conference and to further educate decision makers on water conservation initiatives in western Kansas.

In 2017, KWO is looking to expand the Water Technology Farm concept to additional areas of the state, most specifically where RACs have identified a need for water conservation and increased irrigation water use efficiency. Currently there are discussions to locate the Farms strategically to support water conservation initiatives being led by local leadership groups in the Northwest Kansas Groundwater Management District No. 4 area and within the county-wide Wichita County WCA that is being formed. Additionally, there is a plan to incorporate workforce development into the Water Technology Farms. Working in partnership with the NW Kansas Technical College's newly developed Precision Agriculture program, KWO is planning to develop Water Technology Farms in 2017 with the assistance of Precision Agriculture students. Under this plan, students will gain real world experiences installing, maintaining, and operating irrigation technologies on lands that local landowners have volunteered for use in the program. The scale of this project will be dependent on funding resources still to be secured.

The Long-Term Vision for the Future of Water Supply in Kansas identifies the need to, “evaluate the sources and potential uses of lower quality water” as a strategy within additional sources of water supply. One idea that has been pushed to the forefront is water reuse. Water reuse is best visualized when broken down into three segments: Municipal, Industrial, and Municipal/Industrial partnerships. The KDHE issues and monitors water reuse permits, most of which include turf irrigation. The most common example of Municipal reuse includes cities being able to treat effluent to help water their sporting fields and golf courses. The Kansas Rural Water Association indicates “more than 70 systems in Kansas reuse treated domestic wastewater”, including the cities of Colby, Dodge City and Hays.



Wichita Parks and Recreation

When cities utilize the resource in this particular way, they are able to see a direct cost savings, which in turn helps with economic growth.

Spirit Aerosystems is an example of the Industrial segment, which treats up to 2 million gallons of its wastewater through Reverse Osmosis daily. This water is reused multiple times in the plant and is supplemented with potable water only when necessary. Another area in the Industrial segment is produced water from the petroleum industry. A good deal of research is being conducted by private entities as well as universities on this by-product using grant funding. Treatment costs

‘Be the Vision’ - Spirit AeroSystems

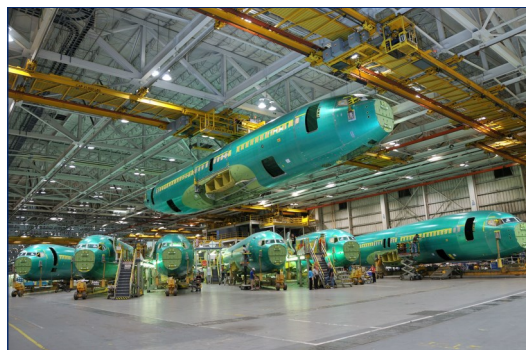


Spirit AeroSystems for their collaboration with the city of Wichita to build a 3 mile pipeline connecting the manufacturing operations to a city water treatment facility. It will allow Spirit to decrease its potable water usage by 70% and allow Spirit to use on average more than three million gallons of recycled water each day.

are high and a combination of Electrocoagulation, Reverse Osmosis, and Desalination may be necessary to treat this water to acceptable levels for stockwater or irrigation purposes. Utilizing produced water could lead to a reduction in the amount water that is injected into the Arbuckle formation.

The final segment is a partnership between the Municipal and Industrial users. Spirit Aerosystems, who is currently purchasing treated effluent (purple pipe) from the city of Wichita to supplement their water needs, is an example of a working collaboration. The city of Garden City, another example, will soon be reusing treated wastewater from the

Dairy Farmers of America (DFA) milk processing facility to irrigate sports fields, parks and other city property. The city is also evaluating other uses of treated wastewater including aquifer recharge to supplement the city’s drinking water supply. The attitude of our Kansas communi-

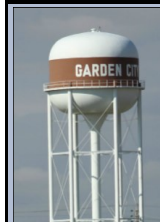


Spirit AeroSystems, Wichita, Kansas

ties continues to evolve and expand as the demand for water approaches the available supply. Pushing the limits of water reuse can be seen in the Health Impact Assessment that the Kansas Health Institute is currently conducting on Municipal water reuse. The biggest hurdle so far is public understanding and acceptance of the quality of the water that would be directly reused. The results of the assessment will be completed in late 2017.

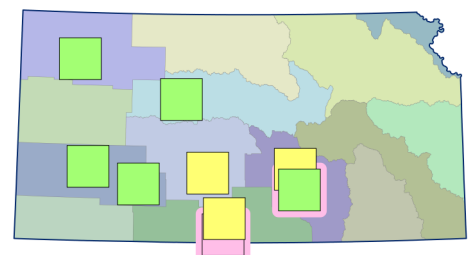
Three of the RACs have included the topic of water reuse into their Action Plans, including the Equus-Walnut, Great Bend Prairie and the Red Hills regions.

‘Be the Vision’ - City of Garden City



Under the direction of Fred Jones, Water Resource Manager, the city has taken the local management of their resource to the next level in terms of water conservation and additional sources of supply as well as residential water use reduction strategies.

“We have worked with community partners to encourage water reuse for agricultural and industrial purposes and the City of Garden City committed to use treated effluent from the Dairy Farmers of America milk drying plant currently under construction in Garden City,” Jones said. The City expects to receive nearly one million gallons of treated effluent water daily that is removed from the milk at the plant.



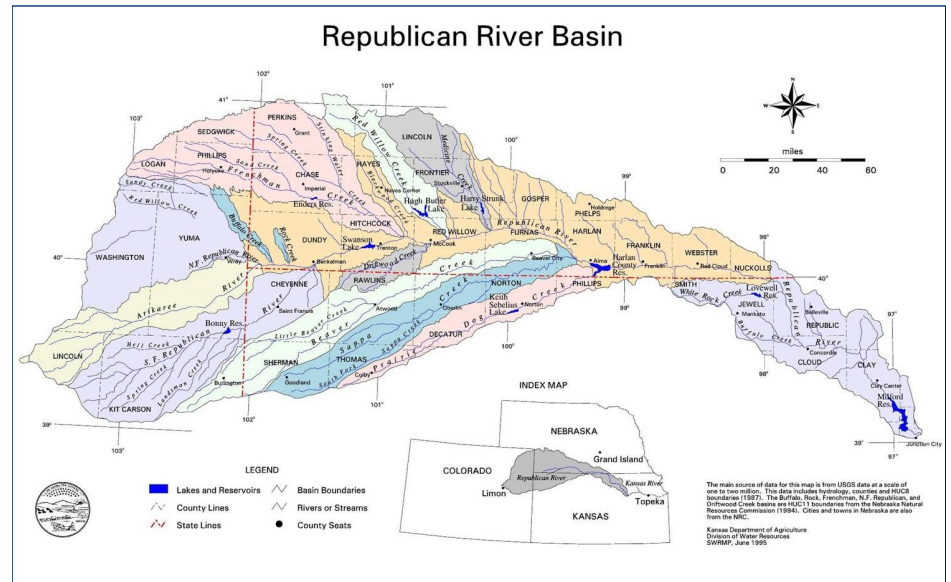
INTERSTATE COOPERATION

Over the last two years, state agency staff has been involved in negotiations with officials from Nebraska and Colorado to resolve issues related to the Republican River Compact. The effort has been focused on changing the way interstate issues are addressed to one of negotiation and mutual cooperation rather than conflict and litigation. At the beginning of the process, key principals such as increasing transparency, improving the reliability of the water supply and recognizing that each state needed to represent their citizens were identified and agreed to. Monthly meetings have taken place over the time period to resolve multiple issues.

In August of 2016, the Republican River Compact Administration adopted two resolutions. This put in place long term agreements to ensure each state is in compliance with the compact and the water is better managed for the basins residents.

One resolution dealt with issues related to Colorado's compliance. The plan is to use voluntary retirement of irrigated land to reduce usage and increase streamflow in the South Fork Republican River. The resolution also identifies the need to develop a plan for Bonny Reservoir in Colorado to better manage the reservoir once it fills with water.

The resolution related to Nebraska issues focuses on their delivery of water for Kansas' needs, with the key structure being Harlan County Reservoir. Nebraska has developed streamflow augmentation projects that allow water to be delivered when Kansans can best put that water to use. Additional work



with Kansas stakeholders continues to develop tools to manage the water once it crosses the state line.

In January 2016, a stakeholder group representing multiple interests within the Lower Republican in Kansas met with officials from KWO and KDA to discuss potential projects. The group came to consensus that in general, \$2.5 million should be used for projects within the Kansas Bostwick Irrigation District (KBID) and \$1 million should be used for projects which are not part of the KBID system. This split was a combination in proportion of where damages had occurred and which projects could be implemented that would have the most overall benefit to the basin.

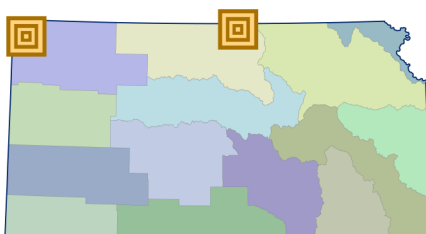
The \$2.5 million dedicated to KBID is being used for the conversion of portions of open canals to a buried pipe system. This conversion will reduce the amount of water needed by the district and improve district operations. The funding will allow KBID to convert 15-20 miles of existing open canal to buried pipe. This effort will eliminate 5,000-10,000 acre-feet of water lost each year to seepage and evapo-

ration. For areas outside of KBID's boundaries, KGS is updating surface water modeling to determine how best to include those users in water that is available from the new compact resolution. Improved management of the system may relieve some of the limitations currently in place, especially during low streamflow periods.

The KWO has contracted with Burns and McDonnell to look at four potential small reservoir sites in the Lower Republican Basin. These sites, if feasible, could provide additional storage for water to be available during high use times. Preliminary results from both the modeling and reservoir feasibility should be available in early 2017.



KBID pipeline conversion project



Periods of drought are normal occurrences in all areas of Kansas. Understanding the impact of response and mitigation options was recently enhanced through a tool called a “drought tournament”. The tournament combined features of a game – players, referees, even fans, in a session that combines collaboration within “teams” of a variety of water users who compete against other teams to develop responses to and mitigation for drought impacts. The event was funded through the National Oceanic and Atmospheric Administration/ Nation Integrated Drought Information System. The tournament, held in Emporia in early December, focused on a fictionalized watershed in eastern Kansas (see map inset this page). Utilizing real data from the

existing stream-aquifer model for the Neosho basin, a model was developed using a fictional set of inflows. The historic period of record used in the tournament contained one multi-year and one two - year period of severe drought, as well as two other less severe two- year drought periods. The fictionalized model used for the tournament included a custom-designed interface with pre-programmed options that could be selected by the tournament “teams”. The teams

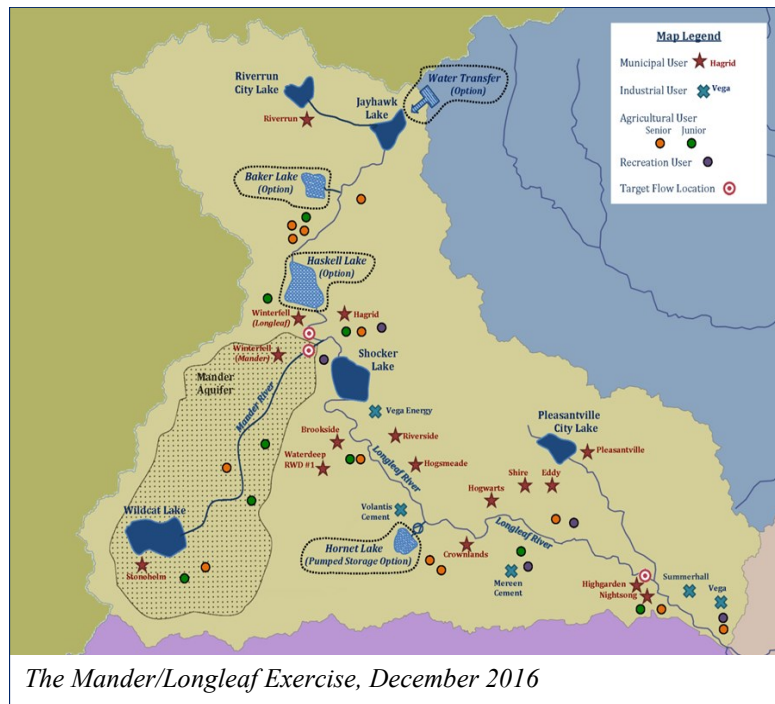
were tasked with selecting combinations of options that would achieve the best result in terms of streamflow, reservoir level and demands met. Each team took different approaches, but all learned lessons of how hard it might be to meet competing water needs during drought.

The Regional Goal Action Plans for the Kansas, Marais des Cygnes, Neosho and Verdigris all contain actions related to protecting and enhancing reservoir storage as well as conservation. Angela Anderson, chair of the Neosho RAC attended the tournament. “I look forward to introducing the drought tournament to the Neosho RAC. I believe this fantastic tool will allow the RAC to be more inclusive in our thinking and planning in reaching the basin's goals. It will aid us in realizing the roles of all potential water users, whether it is industry, municipalities, agriculture, wildlife or the recreational user, that will be affected by and will have to mitigate for drought.”

achieve. This is very valuable for future planning and coordination of our water resources.”



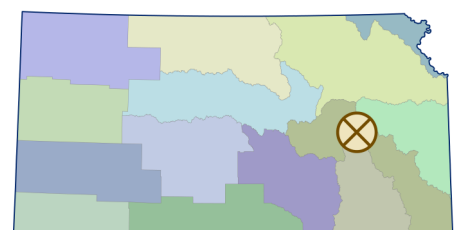
Facilitator Matt Unruh working with his team



The Mander/Longleaf Exercise, December 2016

The drought tournament highlighted the role that the individual stream-aquifer basin models, which are currently maintained and operated by the Kansas Water Office, can serve in assisting the RACs as they move forward with implementing many of their regional goals. The KWO plans to coordinate with the RACs, and where feasible, further customize the stream-aquifer models in their specific basins. These targeted modeling efforts can help the RACs to identify and evaluate potential changes to the existing basin infrastructure and/or operations in order to achieve their regional goals.

The Kansas Region was also well represented at the tournament. “Our region has a profound dependence upon our reservoirs and strategic management of this resource is critical to water supply,” said Kansas RAC Chair Sarah Hill-Nelson. “The drought tool elicits strategic thinking and planning that can otherwise be difficult to



STATE WATER PLAN FUND REVENUE ESTIMATE

State Water Plan Resource Estimate	FY 2016 Actuals	FY 2017 Revenue Estimate	FY 2018 Revenue Estimate	FY 2018 Revenue Estimate w/ SGF & EDIF	FY 2019 Revenue Estimate
Beginning Balance	\$ 3,123,158	\$ 582,945	\$ 0	\$ 0	\$ 22,288
Adjustments					
Release of Prior Year Encumbrance	\$ 452,858	\$ -	\$ -	\$ -	\$ -
Reduced Resources	\$	\$	\$	\$	\$
Other Service Charges	\$ 27,892	\$ 27,892	\$ 27,892	\$ 27,892	\$ 27,892
Transfer to SGF - John Redmond Bond	\$ (1,488,452)	\$ (916,550)	\$ (1,260,426)	\$ (1,260,426)	\$ (1,260,426)
Subtotal--Adjustments	\$ (1,007,701)	\$ (888,658)	\$ (1,232,534)	\$ (1,232,534)	\$ (1,232,534)
Revenues					
State General Fund Transfer	\$ -	\$ -	\$ -	\$ 6,000,000	\$ -
Economic Development Fund Transfer	\$ -	\$ -	\$ -	\$ 2,000,000	\$ -
Municipal Water Fees	\$ 2,962,911	\$ 3,509,018	\$ 2,838,217	\$ 2,838,217	\$ 3,267,271
Clean Drinking Water Fee Fund	\$ 2,658,398	\$ 3,531,723	\$ 2,539,046	\$ 2,539,046	\$ 2,820,674
Industrial Water Fees	\$ 934,928	\$ 1,212,943	\$ 934,928	\$ 934,928	\$ 1,120,701
Stock Water Fees	\$ 415,975	\$ 425,921	\$ 415,975	\$ 415,975	\$ 464,256
Pesticide Registration Fees	\$ 1,334,523	\$ 1,336,353	\$ 1,334,523	\$ 1,334,523	\$ 1,334,523
Fertilizer Registration Fees	\$ 3,294,145	\$ 3,554,503	\$ 3,224,145	\$ 3,224,145	\$ 3,568,921
Pollution Fines and Penalties	\$ 118,651	\$ 250,000	\$ 155,000	\$ 155,000	\$ 165,000
Sand Royalties	\$ 44,634	\$ 99,000	\$ 45,000	\$ 45,000	\$ 45,000
Total Receipts	\$ 11,764,165	\$ 13,919,461	\$ 11,486,834	\$ 19,486,834	\$ 12,786,346
Total Available	\$ 13,879,621	\$ 13,613,749	\$ 10,254,300	\$ 18,254,300	\$ 11,576,100
Less: Expenditures	\$ 13,296,676	\$ 13,613,749	\$ 10,232,012	\$ 18,232,012	\$ 11,574,930
Ending Balance	\$ 582,945	\$ 0	\$ 22,288	\$ 22,288	\$ 1,170

ADDITIONAL FUNDING REQUESTS

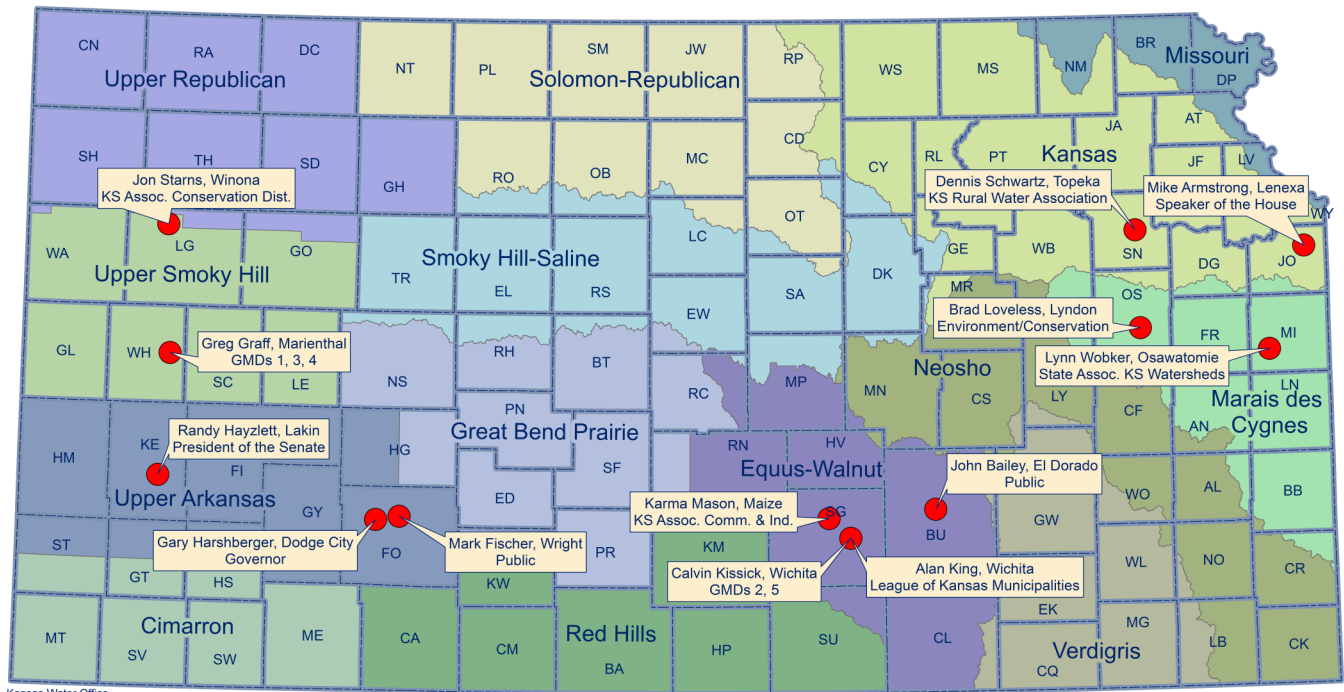
The Kansas Water Authority recommends restoration of the State General Fund and Economic Development Initiatives Fund demand transfers in FY 2018. The proceeds of that restoration are recommended with the following FY 2018 appropriations to implement projects to support the *Long-Term Vision for the Future of Water Supply in Kansas*.

Streambank Stabilization #1	\$2,000,000
Irrigation Technology Adoption	\$1,532,363
Watershed BMP Implementation	\$2,000,000
Less Water Intensive Crop Research	\$500,000
Securing Interstate Waters Study	\$200,000
Shortfall	\$1,767,637
Total SGF & EDIF Transfer	\$8,000,000

STATE WATER PLAN FUND EXPENDITURE RECOMMENDATIONS

Agency/Program	Actuals FY 2016	FY 2017 w/Carry Forward	FY 2018 Recs	FY 2018 Recs w/SGF & EDIF	FY 2019 Recs
Department of Health & Environment					
Contamination Remediation	\$ 687,143	\$ 688,301	\$ 603,301	\$ 688,301	\$ 688,301
TMDL Initiatives	\$ 336,898	\$ 278,307	\$ 216,307	\$ 276,307	\$ 276,307
Nonpoint Source Program	\$ 294,234	\$ 304,768	\$ 238,980	\$ 298,980	\$ 298,980
Watershed Restoration & Protection Strategy	\$ 555,884	\$ 555,884	\$ 555,000	\$ 555,000	\$ 555,884
Total - Department of Health & Environment	\$ 1,874,160	\$ 1,827,260	\$ 1,613,588	\$ 1,818,588	\$ 1,819,472
University of Kansas - Geological Survey	\$ 26,841	\$ 26,841	\$ 26,841	\$ 26,841	\$ 26,841
Department of Agriculture					
Interstate Water Issues	\$ 488,920	\$ 489,725	\$ 387,865	\$ 437,466	\$ 487,000
Subbasin Water Resources Management	\$ 976,949	\$ 913,695	\$ 407,844	\$ 542,844	\$ 610,808
Water Use	\$ 30,000	\$ 163,298	\$ 64,368	\$ 72,600	\$ 72,600
Water Resources Cost Share	\$ 1,930,852	\$ 2,122,665	\$ 1,727,387	\$ 1,948,289	\$ 1,948,289
Nonpoint Source Pollution Asst.	\$ 2,035,689	\$ 1,994,665	\$ 1,410,378	\$ 1,858,350	\$ 1,858,350
Aid to Conservation Districts	\$ 2,101,294	\$ 2,092,637	\$ 2,092,637	\$ 2,092,637	\$ 2,092,637
Watershed Dam Construction	\$ 619,463	\$ 576,434	\$ 511,076	\$ 576,434	\$ 550,000
Water Quality Buffer Initiative	\$ 201,419	\$ 356,901	\$ 88,662	\$ 100,000	\$ 200,000
Riparian & Wetland Program	\$ 154,827	\$ 159,095	\$ 135,343	\$ 152,651	\$ 152,651
Water Supply Restoration Program	\$ 235,000	\$ 281,312	\$ -	\$ 192,968	\$ -
Water Transition Assistance Program/CREP	\$ 465,380	\$ 249,686	\$ 177,324	\$ 200,000	\$ 200,000
Total - Department of Agriculture	\$ 9,239,792	\$ 9,400,114	\$ 7,002,884	\$ 8,174,239	\$ 8,172,335
Kansas Water Office					
Assessment & Evaluation	\$ 530,213	\$ 639,755	\$ 500,000	\$ 750,000	\$ 450,000
GIS Data Base Development	\$ 112,306	\$ 112,306	\$ 50,000	\$ 110,000	\$ -
MOU-Storage Operations & Maintenance	\$ 301,374	\$ 289,889	\$ 363,699	\$ 363,699	\$ 350,000
Stream Gaging	\$ 431,282	\$ 431,282	\$ 350,000	\$ 431,282	\$ 431,282
Technical Assistance to Water Users	\$ 380,708	\$ 486,302	\$ 325,000	\$ 325,000	\$ 325,000
Irrigation Technology Adoption	\$ -	\$ -	\$ -	\$ 1,532,363	\$ -
Less Water Intensive Crop Research	\$ -	\$ -	\$ -	\$ 500,000	\$ -
Watershed BMP Implementation	\$ -	\$ -	\$ -	\$ 2,000,000	\$ -
Streambank Stabilization	\$ 400,000	\$ 400,000	\$ -	\$ 2,000,000	\$ -
Securing Interstate Waters Study				\$200,000	
Total - Kansas Water Office	\$ 2,155,883	\$ 2,359,534	\$ 1,588,699	\$ 8,212,344	\$ 1,556,282
Total State Water Plan Expenditures	\$ 13,296,676	\$ 13,613,749	\$ 10,232,012	\$ 18,232,012	\$ 11,574,930

Kansas Water Authority Members



Kansas Water Office
December 2016

Kansas Water Authority Ex Officio Members

David Barfield Division of Water Resources KS Dept. of Agriculture	John Floros Ag Experiment Station KS State University	Rob Reschke Division of Conservation KS Dept. of Agriculture	Rolfe Mandel KS Geological Survey
Robin Jennison KS Dept. of Wildlife, Parks & Tourism	Antonio Soave KS Dept. of Commerce	Edward Martinko KS Biological Survey	John Mitchell KS Dept. of Health & Environment
Jackie McClaskey KS Dept. of Agriculture	Tracy Streeter KS Water Office	Jay Emler KS Corporation Commission	

Kansans act on a shared commitment to have the water resources necessary to support the state's social, economic and natural resource needs for current and future generations.

- The Long Term Vision for the Future of Water Supply In Kansas



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